

REMARKS

Please reconsider the application in view of the above amendments and the following remarks. Applicants thank the Examiner for carefully considering this application and for indicating that the drawings filed on April 13, 2004, are accepted.

Disposition of Claims

Claims 1-23 were pending in this application. Claim 9 is canceled by way of this reply without prejudice or disclaimer. Accordingly, claims 1-8, 10-23 are pending in this application. Claims 1, 13, and 23 are independent. The remaining claims depend, either directly or indirectly, from claims 1, 13, and 23.

Claim Amendments

Claims 1, 4, 13, and 23 are amended to clarify aspects of the invention. No new matter has been introduced by way of these amendments as support for these amendments may be found, for example, in paragraphs [0016], [0026], [0028], [0035], and [0037] of the instant specification. In addition, claims 2 and 7 are amended to address antecedent basis issues.

Double Patenting Rejection

Independent claims 1 and 19 stand rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claim 3 of U.S. Patent 7,305,661. As permitted under 37 C.F.R. §3.73(b), the undersigned encloses herewith a terminal disclaimer under

37 C.F.R. § 1.321 with respect to U.S. Patent No. 7,305,661. Accordingly, withdrawal of this rejection is respectfully requested.

Rejection(s) under 35 U.S.C. § 101

Claims 13-23 stand rejected under 35 U.S.C. § 101 as being directed to non-statutory subject matter. More specifically, the Examiner rejected claims 13-23 as reciting elements that fail to tangibly embody the system and, thus, are computer software per se. To the extent the rejection may apply to amended and original claims 13-23, the rejection is traversed.

Claims 13 and 23, as amended, recite, in part, a “*processor* configured to...” and a “*storage device* configured to...” Accordingly, the claims now require a system that includes a processor and a storage device, which is clearly not a program or software per se.

For at least these reasons, claims 13 and 23 comply with the statutory subject matter requirement of 35 U.S.C. §101. Claims 14-22 depend either directly or indirectly from claim 13 and, thus, comply with the statutory subject matter requirement of 35 U.S.C. §101 for at least the same reasons. Accordingly, withdrawal of this rejection is requested.

Rejections under 35 U.S.C. § 102

Claims 1-2, 7, 12-14, and 18-20

Claims 1-2, 7, 12-14, and 18-20 stand rejected under 35 U.S.C. § 102(b) as being anticipated by John Murayama, “Performance Profiling Using TNF” (“Murayama”). To the extent that this rejection may still apply to the amended and original claims, the rejection is respectfully traversed.

"A claim is anticipated only if *each and every element* as set forth in the claim is found, either expressly or inherently described, in a single prior art reference." *Verdegaal Bros. v. Union Oil Co. of California*, 814 F.2d 628, 631 (Fed. Cir. 1987) (emphasis added). Further, "[t]he identical invention must be shown in as complete detail as is contained in the claim." *Richardson v. Suzuki Motor Co.*, 868 F.2d 1226, 1236 (Fed. Cir. 1989). The Applicants respectfully assert that Murayama does not expressly or inherently describe each and every element of amended independent claim 1.

Amended independent claim 1 is directed to a method for tracing an instrumented application. More specifically, amended independent claim 1 recites, in part, "registering a helper action with a tracing framework, wherein the helper action is for obtaining a stack trace of the instrumented process" and "performing the helper action to obtain the stack trace of the instrumented process." In other words, independent claim 1 requires, in part, a helper action to be registered and then used to obtain a *stack trace* of the instrumented process. In light of the specification, a stack trace is described as a record of the current state of the stack generated based on "knowledge of the manner in which activation records are allocated on the stack; how to locate the saved program counter address associated with each record (commonly referred to as a stack frame); how to convert these addresses to meaningful names associated with the program's symbol table and source code, etc." See specification, paragraph [0003]. Accordingly, the stack trace is a record of the current state of the stack generated based on data structures describing the stack trace. See specification, paragraph [0005].

In contrast, Murayama only discloses a system for performing performance profiling of software. See Murayama, pg. 1 ("Using TNF, the program (or programs) whose performance is to

be improved is executed and the resulting data is examined to identify which paths are the most likely performance bottlenecks or hot spots.”). In other words, the TNF probes of Murayama are only used to trace execution events. *See id.* Murayama states that an event record of an execution trace is created by “mark[ing] a fixed location in a source program and [designating] ... values of target program scalar and string variables that are to be recorded as part of the resulting event record.” *See id.* Thus, the event tracing of Murayama only allows the events as specified by a software developer to be recorded to a file. *See id.* However, Murayama fails to disclose that the TNF probes are used to obtain a record of the current state of the stack of the instrumented process. In view of this, it is clear that the TNF probes for performance profiling of Murayama are not equivalent to a helper action for obtaining a stack trace as recited in amended independent claim 1.

Moreover, Murayama only discloses the use of interposition functions for mitigating the impact on production performance. *See* Murayama, pg. 2. In other words, Murayama only discloses the use of interposition functions to “enclose” TNF probes, where the TNF probes are configured to profile performance. *See* Murayama, pg. 3. However, Murayama fails to disclose that the interposition functions are used to obtain a stack trace of the instrumented process. In view of this, it is clear that the interposition functions for “enclosing” TNF probes of Murayama are not equivalent to a helper action for obtaining a stack trace as recited in amended independent claim 1.

In view of the above, Murayama fails to disclose all the limitations of independent claim 1. Amended independent claims 13 and 23 include the same patentable limitations as amended independent claim 1 and, thus, are patentable over Murayama for at least the same reasons as amended independent claim 1. Dependent claims 2, 7, 12, 14, and 18-20 depend, directly or

indirectly, from claims 1 and 13 and are patentable for at least the same reasons. Accordingly, withdrawal of this rejection is respectfully requested.

Claim 23

Claim 23 stands rejected under 35 U.S.C. § 102(b) as being anticipated by U.S. Patent No. 6,728,955 ("Berry"). To the extent that this rejection may still apply to the amended and original claims, the rejection is respectfully traversed.

Amended independent claim 23 is directed to a network system for tracing an instrumented application. More specifically, independent claim 23 requires, in part, a helper action to be registered and then used to obtain a *stack trace* of the instrumented process.

In contrast, Berry only discloses a system for profiling software applications. *See Berry*, column 7 at lines 13-22. In other words, similar to Murayama, Berry only discloses a system for tracing execution events. *See Berry*, FIG. 10A and column 9 at lines 49-58. In addition, Berry also discloses a process capable of reconstructing a call stack based on event-based trace records. *See Berry*, column 14 at lines 28-33. However, Berry fails to disclose that trace hooks are used to directly obtain a record of the current state of the stack of the instrumented process. In view of this, it is clear that the trace hooks for performance profiling of Berry are not equivalent to a helper action for obtaining a stack trace as recited in amended independent claim 1.

In view of the above, Berry fails to disclose all the limitations of independent claim 23. Accordingly, withdrawal of this rejection is respectfully requested.

Rejections under 35 U.S.C. § 103

Claims 3-6, 8-11, 15, 21-22 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Murayma. Claim 9 has been cancelled by this reply. Accordingly, this rejection is now moot with respect to canceled claim 9. To the extent that this rejection may still apply to the remaining claims, the rejection is respectfully traversed.

MPEP § 2143 states that “[t]he key to supporting any rejection under 35 U.S.C. 103 is the clear articulation of the reason(s) why the claimed invention would have been obvious. The Supreme Court in *KSR* noted that the analysis supporting a rejection under 35 U.S.C. 103 should be made explicit.” Further, when combining prior art elements, the Examiner “must articulate the following: (1) a finding that the prior art included each element claimed, although not necessarily in a single prior art reference, with the only difference between the claimed invention and the prior art being the lack of actual combination of the elements in a single prior art reference; ...” MPEP § 2143(A).

Amended independent claim 1 is directed to a method for tracing an instrumented application. More specifically, independent claim 1 requires, in part, that the helper action is registered and then used to obtain a *stack trace* of the instrumented process. As discussed above, Murayama fails to disclose all the limitations of independent claim 1. Further, what is known to one skilled in the art does not provide that which Murayama lacks.

Murayama only discloses a system for performing performance profiling. One skilled in the art would not be motivated to modify the system of Murayama to obtain stack traces, as such a modification would be outside the purpose of the TNF utilities. As discussed above, the TNF probes of Murayama are only configured to obtain execution events. *See* Murayama, pg. 1. Thus,

one skilled in the art would not be motivated to modify the system of Murayama to also obtain stack traces as the functionality of TNF Probes is only attributable to profiling performance. In view of this, what is known to one skilled in the art does not teach or suggest a helper action for obtaining a stack trace as explicitly recited in amended independent claim 1.

In addition, amended dependent claim 4 recites, in part, “linking the helper action to an initialization file associated with the instrumented application” and “triggering a hook in the initialization file to load the helper action into the kernel-level for use by the tracing framework.” In other words, claim 4 requires, in part, an initialization file associated the instrumented application and loading a helper action for use by a separate entity (*i.e.*, the tracing framework). The Examiner admits that Murayama fails to explicitly disclose the use of an initialization file and triggering a hook. *See* Office Action dated March 24, 2008, pgs. 9-10. Instead, the Examiner relies on MAN page and Probe documentation file (“Solaris MAN”) as well as what is known to one skilled in the art to teach these limitations of claim 4.

Specifically, the Examiner refers to the use of a Make facility to link TNF libraries described in Solaris MAN and Interposition libraries (*i.e.*, helper libraries). *See id.* In other words, the Make facility could be used in Murayama to provide access to the TNF libraries and Interposition libraries for use by the *target program*. *See* Murayama, pgs. 3-4 (describing how Interposition libraries may be used to instrument the target program and how prex may be used to enable tracing when the target program is currently executing). However, Murayama does not teach that either the TNF libraries or the Interposition libraries are used by the *tracing framework*. Accordingly, one skilled in the art in view of Murayama would not be motivated to use a Make facility to link a helper function for use by the *tracing framework*. In view of this, Solaris MAN and what is known to one

skilled in the art does not teach or suggest a using an initialization file to link a helper action for use by a tracing framework as explicitly recited in amended dependent claim 4.

In view of the above, Murayama and what is known to one skilled in the art, whether considered separately or in combination, do not teach or suggest all the limitations of amended independent claim 1 and dependent claim 4. Thus, amended claims 1 and 4 are patentable over Murayama and what is known to one skilled in the art. In addition, amended independent claim 13 includes at least the same patentable subject matter as claim 1 and, thus, is patentable over Murayama and what is known to one skilled in the art for at least the same reasons as claim 1. Dependent claims 3, 5-6, 8, 10-11, 15, 21-22 depend, directly or indirectly, from claims 1 and 13 and are patentable for at least the same reasons. Accordingly, withdrawal of this rejection is respectfully requested.

Conclusion

Applicants believe this reply is fully responsive to all outstanding issues and places this application in condition for allowance. If this belief is incorrect, or other issues arise, the Examiner is encouraged to contact the undersigned or his associates at the telephone number listed below. Please apply any charges not covered, or any credits, to Deposit Account 50-0591 (Reference Number 03226/369001; SUN040527).

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Attachment (Terminal Disclaimer)